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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,867	09/16/2003	Takayuki Kawabe	1990.68360	3124

7590 02/08/2006

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EXAMINER
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ORTIZ CRIADO, JORGE L

ART UNIT	PAPER NUMBER
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2656

DATE MAILED: 02/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/663,867	<b>Applicant(s)</b> KAWABE, TAKAYUKI	
	<b>Examiner</b> Jorge L. Ortiz-Criado	<b>Art Unit</b> 2656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 3, 5, 7 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 3 and 7 recites the limitation wherein the position trajectory output from the trajectory generating unit is defined a function of third “or higher order” with respect to time. The disclosure does not enable one skilled in the art to make and use the invention as claimed without undue experimentation, for the higher order function.

Claim 5 and 10 recites the limitation “wherein the position trajectory output from the trajectory generating unit is defined by any function of which the second order differential for time is continuous”. The disclosure does not enable one skilled in the art to make and use the invention as claimed without undue experimentation, for any function.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, 2, 6 and 7 each which recites “the position trajectory output from the trajectory generating unit is “ a position trajectory with which resonance frequency components that the lens moving unit has are removed or attenuated by making smooth the variation of acceleration of the objective lens moved by the lens moving unit”, but only a desired result of “removed resonance frequency components and smooth the variation of the acceleration” is recited. Making the claim indefinite, because it is unclear what the Applicant is trying to encompass with this claim language.

Claims 5 and 10, each, which recites the limitation "the second order differential" in the last two lines of the claims. There is insufficient antecedent basis for this limitation in the claim.

Claims 5 and 10, each, which recites the term of “any function” renders the claim indefinite, because it is unclear what the Applicant is trying to encompass with this claim language. It is unclear how to ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claims 3, 4, 8 and 9, fall together accordingly with their respective parent claims.

*Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka J.P 11-206551.

In regard to claim 1, Tanaka discloses a storage apparatus comprising: a lens moving unit (3) for moving an objective lens in the direction of its optical axis;

a focus error detection unit for sensing a targeted position error of the objective lens (pickup 3, ;see paragraph [0020] );

a focus search control unit (10) for outputting an order to move the objective lens to the vicinity of a targeted position;

a focus servo control unit (2) for causing the objective lens to follow the targeted position; and

a trajectory generating unit (1) disposed at the focus search control unit and for generating a position trajectory to move the objective lens “such that the objective lens approaches a targeted position gradually, wherein the position trajectory output from the trajectory generating unit is a position trajectory with which resonance frequency components

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that the lens moving unit has are removed or attenuated by making smooth the variation of acceleration of the objective lens moved by the lens moving unit” (paragraph [0020]-[0033]; Fig. 5)

In regard to claim 4, Tanaka discloses wherein the position trajectory output from the trajectory-generating unit (1) is defined by a combination of trigonometric function (Sinusoidal (Sin) function) [0009]-[0011]; [0021])

In regard to claim 5, Tanaka discloses wherein the position trajectory output from the trajectory generating unit is defined “by any”/ “a” function of which the second order differential for time is continuous (Sinusoidal (Sin) function))

I regard to claim 3, Tanaka discloses wherein the position trajectory output from the trajectory-generating unit (1) is defined by a combination of trigonometric function, because the output defined by a function of third order or higher and trigonometric function with respect to time were art-recognized equivalents at the time of the invention, one of ordinary skill in the art would have understood to substitute trigonometric functions by a function of third order or higher because would perform equally as well. As, recognized by the Applicant, see page 29, lines 13-18, “*the focus search control is conducted by a cubic function with respect to time until the shift to the control at a constant velocity. However, the function may be of, for example, fourth-order or higher and a combination trigonometric functions may be used as the function.*”

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*Otherwise, any function may be used as far as the second order differential of it is a continuous function*"

In regard to claims 2 and 6-10, claims 2 and 7-10 have limitations similar to those treated in the above rejection(s), and as discussed above and are rejected for the same reasons of anticipation as used above

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. J.P Publication No. 04-028020 to Watanabe et al., which discloses a storage apparatus comprising a lens moving unit, a focus error detection unit, a focus search control unit, a focus servo control unit, a trajectory generating unit wherein the position trajectory output from the trajectory generating unit is defined by a function of third order (cubic function).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L. Ortiz-Criado whose telephone number is (571) 272-7624. The examiner can normally be reached on Mon.-Thu.(8:30 am - 6:00 pm),Alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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